

PAT-NO: FR002543676A1

DOCUMENT-IDENTIFIER: FR 2543676 A1

TITLE: Liquid level position indicator

PUBN-DATE: October 5, 1984

INVENTOR-INFORMATION:

NAME

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COUNTRY

N/A

ASSIGNEE-INFORMATION:

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PETROLE SERVICE

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FR

APPL-NO: FR08305472

APPL-DATE: April 1, 1983

PRIORITY-DATA: FR08305472A (April 1, 1983)

INT-CL (IPC): G01F023/38

EUR-CL (EPC): G01F023/38

US-CL-CURRENT: 116/227

ABSTRACT:

CHG DATE=19990617 STATUS=O>A permanent magnet (10) moves with a moving object or float and on the same side of a non-magnetic wall (12). An indicator element (18) mounted on the other side of the wall forms, with the magnet, a magnetic circuit passing through the wall. The indicator element is guided (16) so as to move parallel to the path of the object. A magnetic lubricant is provided at the boundary between the indicator element and guide. The lubricant consists of a fluid carrier contg. a colloidal suspension of solid

magnetic particles. The indicator element may be a second permanent magnet or a non-magnetised e.g. soft iron, object moving in a guide tube. Alternatively, it may be a coloured magnetic fluid.

CLIPPEDIMAGE= JP401087921A

PAT-NO: JP401087921A

DOCUMENT-IDENTIFIER: JP 01087921 A

TITLE: ROLLING BEARING

PUBN-DATE: April 3, 1989

INVENTOR-INFORMATION:

NAME

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ASSIGNEE-INFORMATION:

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APPL-NO: JP62242496

APPL-DATE: September 29, 1987

INT-CL (IPC): F16C033/82;F16C019/04

US-CL-CURRENT: 384/490

ABSTRACT:

PURPOSE: To prevent a magnetic fluid used as a lubricant from splashing outside by providing gaps which have magnetic fields between a pair of seal members, and a first raceway track member and setting at least one of the gaps to be an air gap.

CONSTITUTION: A magnetic fluid is used as a lubricant, while gaps g<SB>2</SB>, g<SB>2</SB> having magnetic fields generated by circular magnets 28, 28 are formed between a pair of seal members C<SB>1</SB>, C<SB>1</SB> and a first raceway track member 21, at least one of gaps is an air gap. Therefore, even

if the magnetic fluid as the lubricant splashes by a relative rotation between the first and a second raceway track members 21, 22, and the fine splash thereof is going to pass the air gap g<SB>2</SB> and scatters outside, it is captured by means of the magnetic field and adheres to the seal members C<SB>1</SB> or the first raceway track member 21. In addition, since the inner and outer spaces of a bearing are communicated to each other through at least one of gaps g<SB>2</SB>, the fluid never breaks through the other gap g<SB>2</SB> and splashes therearound due to its temperature rise even if it is interposed in the gap g<SB>2</SB>.

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L Number	Hits	Search Text	DB	Time stamp
3	503	(310/45).CCLS.	USPAT	2002/11/01 11:57
4	761	(310/216).CCLS.	USPAT	2002/11/01 11:57
6	2339	((310/261) or (310/254) or (310/263)).CCLS.	USPAT	2002/11/01 12:22
7	59	(air adj gap) and lubrica\$	EPO; JPO	2002/11/01 11:02
8	31	(384/910).CCLS.	USPAT	2002/11/01 10:57
10	17279	508/\$.ccls.	USPAT	2002/11/01 10:57
12	8	magnetic adj lubricant\$1	EPO; JPO	2002/11/01 11:03
11	8	508/\$.ccls. and motor and (air adj gap\$1)	USPAT	2002/11/01 11:05
13	66	((310/45).CCLS.) and (air adj gap)	USPAT	2002/11/01 11:16
14	17	coating near (air adj gap)	USPAT	2002/11/01 11:21
15	437	((310/45).CCLS.) not (((310/45).CCLS.) and (air adj gap))	USPAT	2002/11/01 11:22
16	8	((("5366298") or ("5575567") or ("5678929") or ("5742518") or ("5815346") or ("5841607") or ("5997179") or ("6007896"))).PN.	USPAT	2002/11/01 11:30
17	3312	magnetic adj coating\$1	USPAT	2002/11/01 12:00
18	780	(magnetic adj coating\$1) and (motor or alternator)	USPAT	2002/11/01 11:38
19	36	gap near grease	USPAT	2002/11/01 11:38
20	17	(gap near grease) and motor	USPAT	2002/11/01 11:38
21	780	((magnetic adj coating\$1) and (motor or alternator)) not ((310/45).CCLS.)	USPAT	2002/11/01 11:55
22	331	((magnetic adj coating\$1) and (motor or alternator)) not ((310/45).CCLS.) and gap	USPAT	2002/11/01 11:55
23	34	((magnetic adj coating\$1) and (motor or alternator)) not ((310/45).CCLS.) and gap) and stator\$1 and rotor\$1	USPAT	2002/11/01 11:56
24	739	((310/216).CCLS.) not ((310/45).CCLS.)	USPAT	2002/11/01 13:03
25	54952	310/\$.ccls.	USPAT	2002/11/01 12:00
26	21	(magnetic adj coating\$1) and 310/\$.ccls.	USPAT	2002/11/01 12:06
27	35215	148/\$.ccls.	USPAT	2002/11/01 12:06
28	59531	106/\$.ccls.	USPAT	2002/11/01 12:06
29	93856	148/\$.ccls. 106/\$.ccls.	USPAT	2002/11/01 12:06
30	135	(148/\$.ccls. 106/\$.ccls.) and (magnetic adj coating\$1)	USPAT	2002/11/01 12:10
31	304	((310/261) or (310/254) or (310/263)).CCLS.) and (coating\$1 or film\$1 or grease or lubricant\$1)	USPAT	2002/11/01 12:30
33	135	((148/\$.ccls. 106/\$.ccls.) and (magnetic adj coating\$1)) not (3, ((310/216).CCLS.))	USPAT	2002/11/01 12:30
34	230	((310/261) or (310/254) or (310/263)).CCLS.) and (coating\$1 or film\$1 or grease or lubricant\$1)) not (3, ((310/216).CCLS.))	USPAT	2002/11/01 12:36

35	9	((("2387073") or ("2996791") or ("3191270") or ("3848331") or ("3974408") or ("4255494") or ("4501984") or ("4758758") or ("5473211")).PN.	USPAT	2002/11/01 12:36
5	137	(310/228).CCLS.	USPAT	2002/11/01 12:48
36	303	(310/86).CCLS.	USPAT	2002/11/01 13:01
38	2418	((310/45).CCLS.) ((310/216).CCLS.) ((384/910).CCLS.) ((310/45).CCLS.) and (air adj gap)) ((gap near grease) and motor) (((magnetic adj coating\$1) and (motor or alternator)) not ((310/45).CCLS.)) and gap) (((magnetic adj coating\$1) and (motor or alternator)) not ((310/45).CCLS.)) and gap) and stator\$1 and rotor\$1) ((310/216).CCLS.) not ((310/45).CCLS.)) ((magnetic adj coating\$1) and 310/\$.ccls.) ((148/\$.ccls. 106/\$.ccls.) and (magnetic adj coating\$1)) (((310/261) or (310/254) or (310/263)).CCLS.) and (coating\$1 or film\$1 or grease or lubricant\$1)) not (3, ((310/216).CCLS.)) (((("2387073") or ("2996791") or ("3191270") or ("3848331") or ("3974408") or ("4255494") or ("4501984") or ("4758758") or ("5473211")).PN.) ((310/228).CCLS.) ((310/86).CCLS.) (310/44).CCLS.	USPAT	2002/11/01 13:03
39	149	(310/44).CCLS.	USPAT	2002/11/01 13:04
40	105	((310/44).CCLS.) not (((310/45).CCLS.) ((310/216).CCLS.) ((384/910).CCLS.) (((310/45).CCLS.) and (air adj gap)) ((gap near grease) and motor) (((magnetic adj coating\$1) and (motor or alternator)) not ((310/45).CCLS.)) and gap) (((magnetic adj coating\$1) and (motor or alternator)) not ((310/45).CCLS.)) and gap) and stator\$1 and rotor\$1) ((310/216).CCLS.) not ((310/45).CCLS.)) ((magnetic adj coating\$1) and 310/\$.ccls.) ((148/\$.ccls. 106/\$.ccls.) and (magnetic adj coating\$1)) (((310/261) or (310/254) or (310/263)).CCLS.) and (coating\$1 or film\$1 or grease or lubricant\$1)) not (3, ((310/216).CCLS.)) (((("2387073") or ("2996791") or ("3191270") or ("3848331") or ("3974408") or ("4255494") or ("4501984") or ("4758758") or ("5473211")).PN.) ((310/228).CCLS.) ((310/86).CCLS.) (310/273).CCLS.	USPAT	2002/11/01 13:09
41	65	(310/273).CCLS.	USPAT	2002/11/01 13:11
42	20	(310/272).CCLS.	USPAT	2002/11/01 13:11